**Validated By CRFValidator v 1.0.3**

Application No: 10588082 Version No: 2.1

**Input Set:**

**Output Set:**

**Started:** 2007-09-19 17:29:52.047
**Finished:** 2007-09-19 17:29:52.836
**Elapsed:** 0 hr(s) 0 min(s) 0 sec(s) 789 ms
**Total Warnings:** 0
**Total Errors:** 0
**No. of SeqIDs Defined:** 4
**Actual SeqID Count:** 4

SEQUENCE LISTING

<110> Fogh, Jens
Irani, Meher
Andersson, Claes
Weigelt, Cecilia
Christer Moller
Pia Hyden

<120> PRODUCTION AND PURIFICATION OF ARYL SULFATASE A

<130> 33686PC01

<140> 10/588,082
<141> 2006-07-31

<150> PA200400144
<151> 2004-01-30

<150> US 60/540,061
<151> 2004-01-30

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 1524
<212> DNA
<213> Homo Sapiens

<400> 1
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cccaacatcg tgctgatctt tgccgacgac ctcggctatg gggacctggg ctgctatggg 120
caccccagct ctaccactcc caacctggac cagctggcgg cgggagggct gcggttcaca 180
gacttctacg tgcctgtgtc tctgtgcaca ccctctaggg ccgccctcct gaccggccgg 240
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cccctggagg aggtgaccgt ggccgaagtc ctggctgccc gaggctacct cacaggaatg 360
gccggcaagt ggcaccttgg ggtggggcct gaggggcct tcctgccccc ccatcagggc 420
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tgcttcccgc cggccactcc ttgcgacggt ggctgtgacc agggcctggt ccccatccca 540
ctgttggcca acctgtccgt ggaggcgcag ccccctggc tgcccggact agaggcccgc 600
tacatggctt tcgcccatga cctcatggcc gacgcccagc gccaggatcg ccccttcttc 660
ctgtactatg cctctcacca cacccactac cctcagttca gtgggcagag ctttgcagag 720
cgttcaggcc gcgggccatt tggggactcc ctgatggagc tggatgcagc tgtggggacc 780
ctgatgacag ccatagggga cctggggctg cttgaagaga cgctggtcat cttcactgca 840
gacaatggac ctgagaccat gcgtatgtcc cgaggcggct gctccggtct cttgcggtgt 900
ggaaagggaa cgacctacga gggcggtgtc cgagagcctg ccttggcctt ctggccaggt 960
catatcgctc ccggcgtgac ccacgagctg gccagctccc tggacctgct gcctaccctg1020
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<210> 2
<211> 507
<212> PRT
<213> Homo Sapiens

<400> 2
Met Gly Ala Pro Arg Ser Leu Leu Leu Ala Leu Ala Ala Gly Leu Ala
 1  5  10  15
Val Ala Arg Pro Pro Asn Ile Val Leu Ile Phe Ala Asp Asp Leu Gly
            20  25  30
Tyr Gly Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn
        35  40  45
Leu Asp Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val
    50  55  60
Pro Val Ser Leu Cys Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg
65  70  75  80
Leu Pro Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser
                85  90  95
Arg Gly Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala
            100  105  110
Ala Arg Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val
        115  120  125
Gly Pro Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe
    130  135  140
Leu Gly Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr
145  150  155  160
Cys Phe Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu
                165  170  175
Val Pro Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro
            180  185  190
Trp Leu Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu
        195  200  205
Met Ala Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala
    210  215  220
Ser His His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu
225  230  235  240
Arg Ser Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala
                245  250  255
Ala Val Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu
            260  265  270
Glu Thr Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg
        275  280  285
Met Ser Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr
    290  295  300
Thr Tyr Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly
305  310  315  320
His Ile Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu
                325  330  335
Leu Pro Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr
            340  345  350
Leu Asp Gly Phe Asp Leu Ser Pro Leu Leu Leu Gly Thr Gly Lys Ser
        355  360  365
Pro Arg Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg
    370  375  380
Gly Val Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr

385 390 395 400
Gln Gly Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala
405 410 415
Ser Ser Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser
420 425 430
Lys Asp Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala
435 440 445
Thr Pro Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala
450 455 460
Gln Leu Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly
465 470 475 480
Glu Asp Pro Ala Leu Gln Ile Cys Cys His Pro Gly Cys Thr Pro Arg
485 490 495
Pro Ala Cys Cys His Cys Pro Asp Pro His Ala
500 505

<210> 3
<211> 489
<212> PRT
<213> Homo Sapiens

<220>
<221> FORMYLATION
<222> 51
<223> C-alpha Formylglycine

<400> 3
Arg Pro Pro Asn Ile Val Leu Ile Phe Ala Asp Asp Leu Gly Tyr Gly
1 5 10 15
Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn Leu Asp
20 25 30
Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val Pro Val
35 40 45
Ser Leu Xaa Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Leu Pro
50 55 60
Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser Arg Gly
65 70 75 80
Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala Ala Arg
85 90 95
Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val Gly Pro
100 105 110
Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe Leu Gly
115 120 125
Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr Cys Phe
130 135 140
Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu Val Pro
145 150 155 160
Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro Trp Leu
165 170 175
Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu Met Ala
180 185 190
Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala Ser His
195 200 205
His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu Arg Ser
210 215 220
Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala Ala Val

```
225                 230                 235                 240
Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu Glu Thr
                245                 250                 255
Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg Met Ser
            260                 265                 270
Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr Thr Tyr
        275                 280                 285
Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly His Ile
    290                 295                 300
Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu Leu Pro
305                 310                 315                 320
Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr Leu Asp
                325                 330                 335
Gly Phe Asp Leu Ser Pro Leu Leu Leu Gly Thr Gly Lys Ser Pro Arg
            340                 345                 350
Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg Gly Val
        355                 360                 365
Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr Gln Gly
    370                 375                 380
Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala Ser Ser
385                 390                 395                 400
Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser Lys Asp
                405                 410                 415
Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala Thr Pro
            420                 425                 430
Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala Gln Leu
        435                 440                 445
Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly Glu Asp
    450                 455                 460
Pro Ala Leu Gln Ile Cys Cys His Pro Gly Cys Thr Pro Arg Pro Ala
465                 470                 475                 480
Cys Cys His Cys Pro Asp Pro His Ala
                485
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<210> 4
<211> 489
<212> PRT
<213> Homo Sapiens

<400> 4

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Arg Pro Pro Asn Ile Val Leu Ile Phe Ala Asp Asp Leu Gly Tyr Gly
 1               5                  10                  15
Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn Leu Asp
            20                  25                  30
Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val Pro Val
        35                  40                  45
Ser Leu Cys Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Leu Pro
    50                  55                  60
Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser Arg Gly
65                  70                  75                  80
Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala Ala Arg
                85                  90                  95
Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val Gly Pro
            100                 105                 110
Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe Leu Gly
        115                 120                 125
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```
Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr Cys Phe
    130                 135                 140
Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu Val Pro
145                 150                 155                 160
Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro Trp Leu
                165                 170                 175
Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu Met Ala
            180                 185                 190
Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala Ser His
        195                 200                 205
His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu Arg Ser
    210                 215                 220
Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala Ala Val
225                 230                 235                 240
Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu Glu Thr
                245                 250                 255
Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg Met Ser
            260                 265                 270
Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr Thr Tyr
        275                 280                 285
Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly His Ile
    290                 295                 300
Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu Leu Pro
305                 310                 315                 320
Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr Leu Asp
                325                 330                 335
Gly Phe Asp Leu Ser Pro Leu Leu Leu Gly Thr Gly Lys Ser Pro Arg
            340                 345                 350
Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg Gly Val
        355                 360                 365
Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr Gln Gly
    370                 375                 380
Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala Ser Ser
385                 390                 395                 400
Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser Lys Asp
                405                 410                 415
Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala Thr Pro
            420                 425                 430
Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala Gln Leu
        435                 440                 445
Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly Glu Asp
    450                 455                 460
Pro Ala Leu Gln Ile Cys Cys His Pro Gly Cys Thr Pro Arg Pro Ala
465                 470                 475                 480
Cys Cys His Cys Pro Asp Pro His Ala
                485
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